tense dyspnœa, and died before aid could reach him. A bronchial gland was found to have ulcerated into the trachea at the bifurcation and to have become impacted in the larynx.Should a similar case occur again it would no doubt be the right treatment to do as Dr. Wright did and endeavor to burst the abscess by catheter,or stout metal probe. Dr. Wright suggests that a mirror might be introduced into the trachea wound ; but at Brompton this has been tried in adults and found to be extremely difficult, the wound having to be very extensive to admit even a rhinoscopic mirror. Painting the wound and trachea with cocaine stops the coughing caused by the introduction of the mirror which takes place even under complete anæsthesia.—*Lancet*, September 29, 1888.

H. H. TAYLOR (London.)

BONES, JOINTS, ORTHOPÆDIC.

I. Spiral Fractures. By DR. KROELL (Strassburg). Spiral fractures are indirect fractures caused by a rotary force. The right spiral fracture is caused by a rotary force acting from the left to right, and *vice versa*. Another cause may be a direct longitudinal force with the consequent wedging of a process of bone into a neighboring bone (tibia and femur). Predisposing causes of fractures of other varieties hold also in cases of spiral fractures. In the long bones we have as agents in causing fractures a twisting of the limb in a machine or between two wheels. Gunshot wounds are also a cause of spiral fractures. Bornhaupt insists that in these cases the ball at the moment of contact causes rotation of the long bone on its long axis. Among the symptoms may be mentioned an audible crushing noise ; palpation reveals in some cases the line of fracture (Bruns) ; intense pain exists not only at the point of fracture but above and below the point of fracture. In course of the line of fracture we have extravasation of blood. The spiral fracture has its seat generally at the most delicate and least resistant part of the bone. In simple spiral fracture if reposition fail the soft parts may suffer much injury. There is in weakly individuals a great danger of inflammation in the bone marrow, tuberculosis, caries, etc. The nature of the spiral fracture causes a separation of some extent of the periosteum and subsequent danger of necrosis. Both these influences will act against the union of the fragments. The formation of large splinters may cause difficulties in union of fragments. The severer forms of inflammation of the periosteum, bone and medulla are more frequently found in these fractures than in fractures of the ordinary varieties. Moreover, fat emboli, tetanus, septicæmia, delirium and fatal issue are more common in spiral complicated fractures. The recovery in these fractures is of much longer duration. The diagnosis is not difficult in those cases where an external wound exists. In subcutaneous spiral fractures palpation is a means of diagnosis. Excessive mobility of fragments shortening, protrusion of the broken fragments and the history are points of diagnosis. Absence of direct violence and the presence of pain on manipulating fragments at a distance are of importance. The prognosis is graver than in longitudinal and transverse fractures. The author concludes that modern antisepsis will allow our treatment of these fractures to be more conservative than formerly. In spiral fractures bone suture and extension may be found useful adjuncts in treatment.—*Zeitsch. f. Chir.*, bd. 28, heft. 2.

HENRY KOPLIK (New York).

II. Case of Dislocation of Seven Vertebræ en masse. By Dr. K. SCHULZ (Margelan, Russian Asia).—A gunner was knocked down by frightened horses drawing a 70 *puds* (about 2,520 pounds) piece, the two right wheels of the carriage swiftly passing across his loins, while a left wheel slightly touched his left leg. When brought to a lazaretto shortly afterward, he was very pale and complained of severe lumbar pain and inability to move his lower limbs. The patient having been placed on his abdomen, an enormous fluctuating (bloody) tumor was found occupying the spine from the 9th dorsal vertebra down to the sacrum, the skin over it being intact. On examination with a finger, the last three dorsal and the first four lumbar vertebræ proved to be dislocated forward as a whole, the apex of the 10th dorsal spinous processes being felt at the level of the base of the 9th one. The ribs were intact, but the 9th ones formed each an abnormally